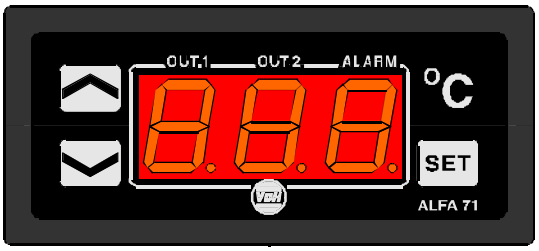
User manual
ALFA(NET) 71 RTDN

Rail-Thermostat with real time clock.



VDH doc. 080341	**Version: v1.0**	**Date: 07-03-2008**
Software: ALFANET71 RTDN	**File: Do080341.WPD**	**Range: -50/+50,0˚C**

* Installation.

On the connection diagram of the **ALFA(NET) 71 RTDN** is shown how the sensors, power supply and relays should be connected. After connecting the **ALFA(NET) 71 RTDN** to the power supply, a self test function is started. As this test is finished, the measured temperature appears in the display. Normally this is the temperature of sensor-1, unless sensor-2 is active as control sensor (P05=1) in this case the average temperature of both sensors is displayed and used for control. The ***ALFANET 71 RTDN*** is by use of the **ALFANET PC-INTERFACE** controllable on the PC.

* Control.

The **ALFA(NET) 71 RTDN** thermostat can be controlled by four pushbuttons on the front. These keys are:

- **SET** - view / change the set point.
- **UP** - increase the set point.
- **DOWN** - decrease the set point.
- **MODE** - relay status key.

* Viewing set point.

By pushing the **SET** key the set point appears in the display. The decimal point of the last display starts blinking. A few seconds after releasing the **SET** key the set point disappears and the measured temperature is shown again in the display.

* Changing set point.

Push the **SET** key and the set point appears in the display. Release the **SET** key. Now push the **SET** key again together with the **UP** or **DOWN** keys to change the set point. A few seconds after releasing the keys the measured temperature shows again in the display.

* Viewing the individual sensors.

By pressing the **UP** and **DOWN** key together, the individual sensors can be shown in the display. After releasing the keys, the measured temperature of sensor-1 can be shown by pushing the **UP** key or the measured temperature of sensor-2 can be shown by pushing the **DOWN** key. A few seconds after releasing the keys the (average) temperature shows again in the display.

* Status of the Relays.

By pushing the **MODE** key the display shows the status of the relays. Each display segment shows the status of the relay output, showing 0=off and 1=on. The code 110 means relay 1 and 2 are on and relay 3 is off.

* Setting internal parameters.

Next to the adjustment of the set point, internal settings can be made like differential, sensor offset, set point range and the functions of the thermostat.
Push the **DOWN** key for more than 10 seconds, to enter the 'Internal Programming Menu'. In the left display the upper- and lower-segment are blinking. With the **UP** and **DOWN** keys the required parameter can be selected (see the parameter table).
If the required parameter is selected, the value can be read-out by pushing the **SET** key. Pushing the **UP** or **DOWN** key to change the value of this parameter.
If after 20 seconds no key is pushed, the **ALFA(NET) 71 RTDN** changes to the normal operation mode.

* Adjustment sensors.

Sensor-1 can be adjusted by using the Sensor Offset parameter 06 and Sensor-2 can be adjusted by using the Sensor Offset parameter 07. Indicates a Sensor e.g. 2˚C to much, the according Sensor Offset has to be decreased by 2˚C.

* Error messages.

In the display of the **ALFA(NET) 71 RTDN** the following error messages can appear:

LO	- Minimum alarm.	Solution E1,E2:
HI	- Maximum alarm.	- Check if the sensor is connected correctly.
E1	- Sensor-1 failure.	- Check sensor (1000Ω at 25˚C).
E2	- Sensor-2 failure.	- Replace sensor.
EEE	- Settings are lost.	Solution EEE:
		- Reprogram the settings.

-L- - In case of sensor short-circuit the display alternates between error-code **E..** and **-L-**, as indication for a short-circuit sensor.
-H- - In case of open-circuit sensor the display alternates between error-code **E..** and **-H-**, as indication for a open circuit sensor.

Reset Alarm. When a error-messages appears it can be resetted by pushing the **SET** key. The function of this key depends on parameter P37.

* Technical data.

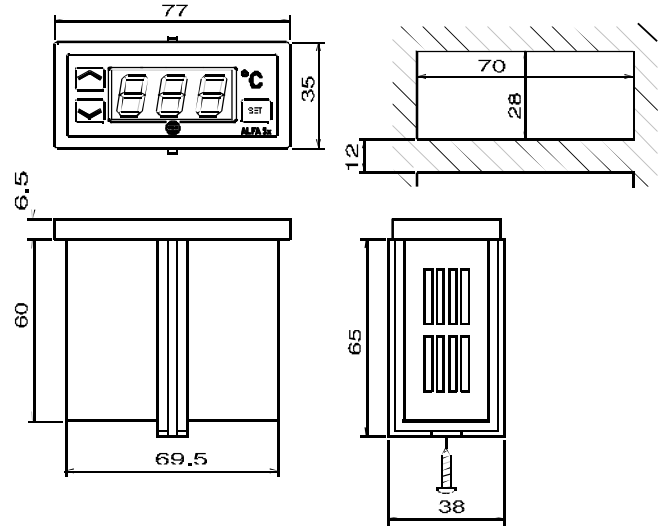
Type	: ALFA(NET) 71 RTDN rail thermostat
Range	: -50/+50,0˚C, above -10˚C display per 0,1˚C
Supply	: 12Vac 50/60Hz (-5/+10%)
Display	: 3-digit 7-segment display
Relays	: Ry1= SPST(NO)250V/8A (cos ϕ=1) of 250V/5A (cos ϕ=0.4) Ry2= SPST(NO)250V/8A (cos ϕ=1) of 250V/5A (cos ϕ=0.4) Ry3= SPDT(NO/NC)250V/8A (cos ϕ=1) of 250V/5A (cos ϕ=0.4) Relays have one common (C).
Control	: By push buttons on front.
Front	: Polycarbonate IP65
Sensors	: 2x SM 811/2m (PTC 1000Ω/25˚C).
Communication	: RS485-Network (2x twisted pair shielded cable min. 0,75mm^2)
Dimensions	: 90 x 71 x 58mm (HWD)
Panel cut out	: 46 x 71mm (HW) for front mounting
Accuracy	: ± 0,5% of the range.

- Provided with memory protection during power failure.
- Connections with screw terminals on the back side.
- Equipped with sensor failure detection.
- Special versions are on request available.

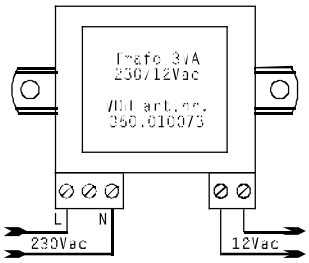
* Parameters ALFA(NET) 71 RTDN

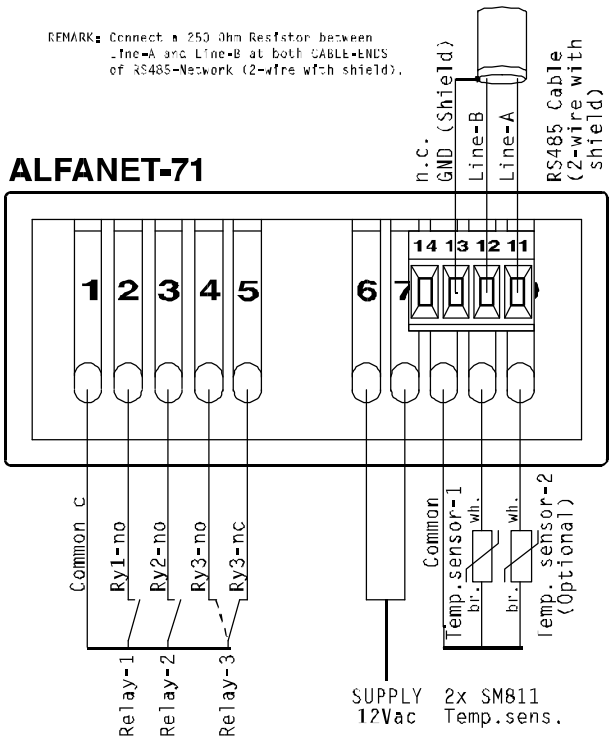
Para-Meter	Description Parameter	Range	Standard value
01	Function Relay 1 1 = Cool 2 = Heat 3 = Alarm	1..3	1
02	Function Relay 2 (ditto)	1..3	2
03	Function Relay 3 (ditto)	1..3	3
05	Function sensor-2 0 = Not 1 = Control 2 = Alarm	0..2	0
06	Offset temperature sensor-1	-15.0..+15.0˚C	0.0
07	Offset temperature sensor-2	-15.0..+15.0˚C	0.0
10	Switch on relay 2 by 0 = Temperature 1 = Time	0..1	0
11	Switch on relay 3 by (ditto)	0..1	0
12	Switch on delay relay 2	0..99 Minutes	15
13	Switch on delay relay 3	0..99 Minutes	15
14	Switching differential relay 1	0.1..15.0 ˚C	0.5
15	Set point offset relay 1	-15..+15 ˚C	0.0
16	Switching differential relay 2	0.1..15.0 ˚C	0.5
17	Set point offset relay 2	-15..+15 ˚C	0.0
18	Switching differential relay 3	0.1..15.0 ˚C	0.5
19	Set point offset relay 3	-15..+15 ˚C	0.0
20	Switch on delay cooling	0..99	0
21	Switch off delay cooling	0..99	0
22	Parameter 20/21 in Sec. or Min.	0=Seconds,1=Minutes	0
23	Minimum on-time cooling	0..99 Minutes	0
24	Minimum off-time cooling	0..99 Minutes	0
25	Minimum set point	-50.0..+50.0˚C	-50
26	Maximum set point	-50.0..+50.0˚C	+50
27	Read-out above -10˚C per 1˚C	0=No, 1=Yes	0
30	Alarm type (to set point)	0 = None 1 = Absolute 2 = Relative	1
31	Minimum alarm set point	-50.0..+50.0˚C	-50
32	Maximum alarm set point	-50.0..+50.0˚C	+50
33	Time delay minimum alarm	0..99 Minutes	0
34	Time delay maximum alarm	0..99 Minutes	0
35	Relay function alarm relay	0=fail safe, 1=Control	0
36	Reset alarm relay after recovering alarm	0=No, 1=Yes	0
37	Reset alarm relay after manual reset	0=No, 1=Yes	0
40	Start up delay after power failure	0..99 Minutes	0
41	Forced relay function at sensor failure	0 = None 1 = Cool 2 = Heat	0
50	Time hours	0..23 hours	-
51	Time minutes	0..59 minutes	-
52	Time offset	-99..99 min./year	0
53	Day of the week	1..7 (=monday..sunday)	-
60	Night offset weekday	-50.0..+50.0˚C	0
61	Night offset weekend	-50.0..+50.0˚C	0
62	Night offset abs/rel. 0 = absolute 1 = relative	0..1	0
63	Start time weekday day position hours	0..23/OFF hours	OFF
64	Start time weekday day position min.	0..59/OFF min.	OFF
65	Start time weekday night position hours	0..23/OFF hours	OFF
66	Start time weekday night position min.	0..59/OFF min.	OFF
67	Start time weekend day position hours	0..23/OFF hours	OFF
68	Start time weekend day position min.	0..59/OFF min.	OFF
69	Start time weekend night position hours	0..23/OFF hours	OFF
70	Start time weekend night position min.	0..59/OFF min.	OFF
90	Network number	1..255	1
95	Software version	0..255	0
96	Production year	00..99	0
97	Production week	1..52	1
98	Serial number (x1000)	0..255	0
99	Serial number (units)	0..999	0

* Dimensions.



* Connections.





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